

# REPORT ON MACHINERY.

Received at London Office H.U. MAR. 28. 1912

Date of writing Report 26th March 1912 When handed in at Local Office

Port of Bremen

No. in Survey held at Geestmünde Date, First Survey 6th November 1911 Last Survey 25th March 1912

Reg. Book. Sup 56 on the "Steel & Iron Düsseldorf"

Master J. Schmitz Built at Geestmünde By whom built Jon. C. Tecklenborg & Co. Tons { Gross 5877 Net 3728 When built 1912

Engines made at Geestmünde By whom made Jon. C. Tecklenborg & Co. when made 1912

Boilers made at Geestmünde By whom made Jon. C. Tecklenborg & Co. when made 1912

Registered Horse Power 697 Owners Deutscher Australische Dampfschiff. Ges. Port belonging to Hamburg

Nom. Horse Power as per Section 28 697 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

## ENGINES, &c.—Description of Engines Triple compound surface condensing No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 27 1/2, 46 1/2, 78 3/4 Length of Stroke 53 1/2 Revs. per minute 75 Dia. of Screw shaft 16.57 Material of 1 1/2" Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight

in the propeller boss Yes If the liner is in more than one length are the joints burned No If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive No If two

liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 10'-3 3/16"

Dia. of Tunnel shaft 14.96 Dia. of Crank shaft journals 15.76 Dia. of Crank pin 16 1/8 Size of Crank webs 10 1/4 Dia. of thrust shaft under

collars 15 3/4 Dia. of screw 19-10 3/16 Pitch of Screw 19-10 3/16 No. of Blades 4 State whether moveable No Total surface 122.66 sq'

No. of Feed pumps 2 Diameter of ditto 3 3/4 Stroke 27 1/16 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 5/16 Stroke 27 1/16 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4 Sizes of Pumps 7 7/8 x 10 1/4, 9 1/8 x 6 5/16, 4 5/16 x 5 1/2, 7 1/2 x 4 3/4 and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 5 in Engine room & stokehold 4" dia. In Holds, &c. 2 in each hold 4" dia., 1 in tunnel 4" dia.

No. of Bilge Injections 1 sizes 1 1/2 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 4" dia.

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Discharge Pipes above or below the deep water line above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

What pipes are carried through the bunkers Bilge suction pipes How are they protected wooden casings

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

Dates of examination of completion of fitting of Sea Connections 29.1.12 of Stern Tube 29.1.12 Screw shaft and Propeller 29.1.12

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Engine platform above deck.

## BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Friedr. Krupp, Essen-Nord; Rheinische Stahlwerke, Esslingen; Rambach & Wittmann, Rambach; Maschinenbauwerke A.G. Geestmünde.

Total Heating Surface of Boilers 83940 Is Forced Draft fitted Yes No. and Description of Boilers 3 cylindrical multitubular

Working Pressure 206 lb Tested by hydraulic pressure to 412 lb Date of test 30.11.12, 28.12.11. No. of Certificate 13, 14, 15

Can each boiler be worked separately Yes Area of fire grate in each boiler 64.5 sq' No. and Description of Safety Valves to

each boiler 2 spring loaded Area of each valve 2.18 sq" Pressure to which they are adjusted 206 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 5'-2 3/4" Length 11'-12 1/2" Material of shell plates 1/2" Steel

Thickness 1 1/32 Range of tensile strength 27.9-32.4 Are the shell plates welded or flanged flanged Descrip. of riveting: cir. seams double

long. seams quadruple Diameter of rivet holes in long. seams 7 1/4 x 1 1/2 Pitch of rivets 19 1/16 Lap of plates or width of butt straps 30"

Per centages of strength of longitudinal joint 93.5 Working pressure of shell by rules 213 lb Size of manhole in shell 11 1/2 x 15 5/16

Size of compensating ring 37 1/16 x 1 1/32 No. and Description of Furnaces in each boiler 3 motor Material 1/2" Steel Outside diameter 49 3/16

Length of plain part 4 3/4 Thickness of plates 1 1/16 Description of longitudinal joint welded No. of strengthening rings —

Working pressure of furnace by the rules 241 lb Combustion chamber plates: Material 1/2" Steel Thickness: Sides 1/16 Back 2/32 Top 1/16 Bottom 6/64

Pitch of stays to ditto: Sides 8/8 x 6 1/16 Back 7/4 x 6 1/16 Top 7/8 x 7 1/16 If stays are fitted with nuts or riveted heads with Working pressure by rules 287 lb

Material of stays 1/2" Steel Diameter at smallest part 1 9/16 Area supported by each stay 48'8" sq' Working pressure by rules 238 lb End plates in steam space:

Material 1/2" Steel Thickness 1 1/16 Pitch of stays 4 x 15 1/32 How are stays secured double nuts Working pressure by rules 275 lb Material of stays 1/2" Steel

Diameter at smallest part 2 1/32 Area supported by each stay 2150 Working pressure by rules 285 lb Material of Front plates at bottom 1/2" Steel

Thickness 1 3/32 Material of Lower back plate 1/2" Steel Thickness 63/64 Greatest pitch of stays 7 1/4 x 13 1/2 Working pressure of plate by rules 242 lb

Diameter of tubes 2 3/4 Pitch of tubes 3 1/16 x 32 9/32 Material of tube plates 1/2" Steel Thickness: Front 1 3/32 Back 6/64 Mean pitch of stays 9 1/16

Pitch across wide water spaces 13 3/4 Working pressures by rules 216 lb Girders to Chamber tops: Material 1/2" Steel Depth and

thickness of girder at centre 10 1/4 x 1 1/16 x 7 1/2 Length as per rule 35 3/4 Distance apart 7 1/16 Number and pitch of stays in each 3-7 7/8

Working pressure by rules — Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler worked

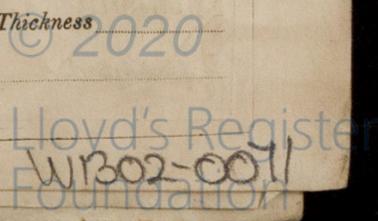
separately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet

holes — Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —

If stiffened with rings — Distance between rings — Working pressure by rules — End plates: Thickness — How stayed —

Working pressure of end plates — Area of safety valves to superheater — Are they fitted with easing gear —

If not, state whether, and when, one will be sent



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_

Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_

If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_

Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_

Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_

Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— 1 crank shaft, 1 propeller shaft, 1 propeller, 1 crosshead brass, 1 crank pin brass, 2 crank pin brass bolts and nuts, 2 crosshead brass bolts and nuts, 1 set of coupling bolts, 2 slide valve spindles, 1 piston rod for air pump, 1 set of valves for air pump, 1 set of feed pump valves, 2 complete sets of links, 2 percent of condenser tubes with stuffing boxes, 2% of boiler tubes, 3 safety valve springs, 6 sets of gauge glasses, 10% cylinder cover bolts, 10% slide valve casing cover bolts, 10% piston bolts, 1 complete eccentric strap, 1 set of piston rings for each piston, 2 main bearing bolts, 1 set of bridge pump valves, 1 set of fire tools, bolts, nuts, washers, and iron of various sizes.

The foregoing is a correct description,  
 JUN. C. TECKLENBURG A.G. Manufacturer.

Schiffswerft und Maschinenfabrik  
 Schottener Maschinenbau

Dates of Survey while building: During progress of work in shops -- Nov 6, 11, 30, Dec 8, 15, 23, 28 Jan 3, 10, 24, Jan. 29, Feb 1, 6, 22, 28, March 8, 18, 20, 25

During erection on board vessel -- 19

Total No. of visits \_\_\_\_\_

Is the approved plan of main boiler forwarded herewith  Yes  No

Is the approved plan of donkey boiler forwarded herewith  Yes  No

Dates of Examination of principal parts—Cylinders 6.11.11/6.12.11. Slides 6.11.11/3.1.12 Covers 6.11.11. Pistons 6.11.11/3.1.12 Rods 6.11.11/3.1.12

Connecting rods 6.11.11. Crank shaft 10.1.12 Thrust shaft 10.1.12 Tunnel shafts 10.1.12 Screw shaft 10.1.12 Propeller 3.1.12

Stern tube 24.1.12/29.1.12 Steam pipes tested 8.3.12 Engine and boiler seatings 29.1.12 Engines holding down bolts 6.11.11

Completion of pumping arrangements 18.3.12 Boilers fixed 8.3.12 Engines tried under steam 20.3.12

Main boiler safety valves adjusted 20.3.12 Thickness of adjusting washers: Port Boiler 39", Starboard Boiler 41", Forward Boiler 44", Aft Boiler 59"

Material of Crank shaft: M. Steel Identification Mark on Do. K.H.11.11 Material of Thrust shaft: M. Steel Identification Mark on Do. 6755

Material of Tunnel shafts: M. Steel Identification Marks on Do. K.H.9.11, P.A.9.11, K.H.8.11, K.H.7.11, K.H.8.11 Material of Screw shafts: M. Steel Identification Marks on Do. K.H.11.11, K.H.9.11

Material of Steam Pipes: Steel Test pressure 412 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines and Boilers have been manufactured under Special Survey in accordance with the Rule requirements and of good materials manufactured at approved works and tested by the Society's Surveyors as per Rules. The workmanship is good, all cast iron parts are of close fine grained quality and all hollow vessels such as cylinders, pumps, condenser etc have been tested by hydraulic pressure above their working pressure and found tight.

The main steam pipes, feed pipes and all other pipes have been tested by hydraulic pressure up to 412 lbs well hammered over and found tight.

The Boilers have been manufactured in accordance with the approved plans and the workmanship is good. They have been tested by hydraulic pressure of 412 lbs found tight, and carefully gauged while under test showed no alteration of form. Under steam the Boilers are tight and the Safety valves lift freely at 206 lbs.

These Engines and Boilers are eligible in my opinion to be classed in the Register Book with the notation of LMC 3.12.

It is submitted that this vessel is eligible for THE RECORD + LMC 3.12.

The amount of Entry Fee .. Mk 62.-: When applied for, 26.3.1912

Special .. .. £ 1125.-: When received, 2.4.1912

Donkey Boiler Fee .. .. £ 43.-: 2.4.1912

Travelling Expenses (if any) £ 20.-: 2.4.1912

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping. U.H. C. Kamm. J.W.D. 29/3/12

Committee's Minute FRI. MAR. 29. 1912

Assigned + L.M.C. 3.12

Machinery Certificate written.

Certificate (if required) to be sent to Bremen Office.

If not, state whether, and when, one will be sent.

